OPERATOR'S MANUAL

EnteralEZ®

Enteral Feeding Pump

ZEVEX®
THERAPEUTICS

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I. INTRODUCTION

The EnteralEZ® is a timesaving, user-friendly enteral feeding pump that can be used for the delivery of enteral nutrition formulas. The pump is simple to program, and many of its functions can be activated with a single touch. Reliable and accurate, the EnteralEZ® is designed to give the user easy access to its many useful features.

- Anti-free flow alarm feature identifies potentially harmful bolus of enteral formula.
- Prime feature allows convenient set priming at the touch of a button.
- VOLUCHECK™ keeps a record of accumulated amount of formula delivered over several feedings.
- Large clear display windows can be read from a distance.
- Clear button clears all displays.
- Audible and visible alarms are readily differentiated. User is alerted to low battery, empty formula container, occluded tubing, dose complete, and in event of formula free-flow.
- Smooth plastic case is easily cleaned with mild soap.
- Simple self-test allows operator to check major functions before use.

INTRODUCTION (Continued)

- Built in pole clamp allows patient mobility.
- Memory is not erased by power interruption.
- Dose can be set in 1ml increments up to 2000ml, then in 5ml increments up to 9999ml.
- Alarm volume is adjustable, except for free-flow alarm, which is always at full volume for safety.
- Programming directions are printed directly on pump.
- Special holder on back of pump conveniently stores Disposable Set Cap and helps prevent possible contamination.

FRONT HOUSING PARTS LOCATION

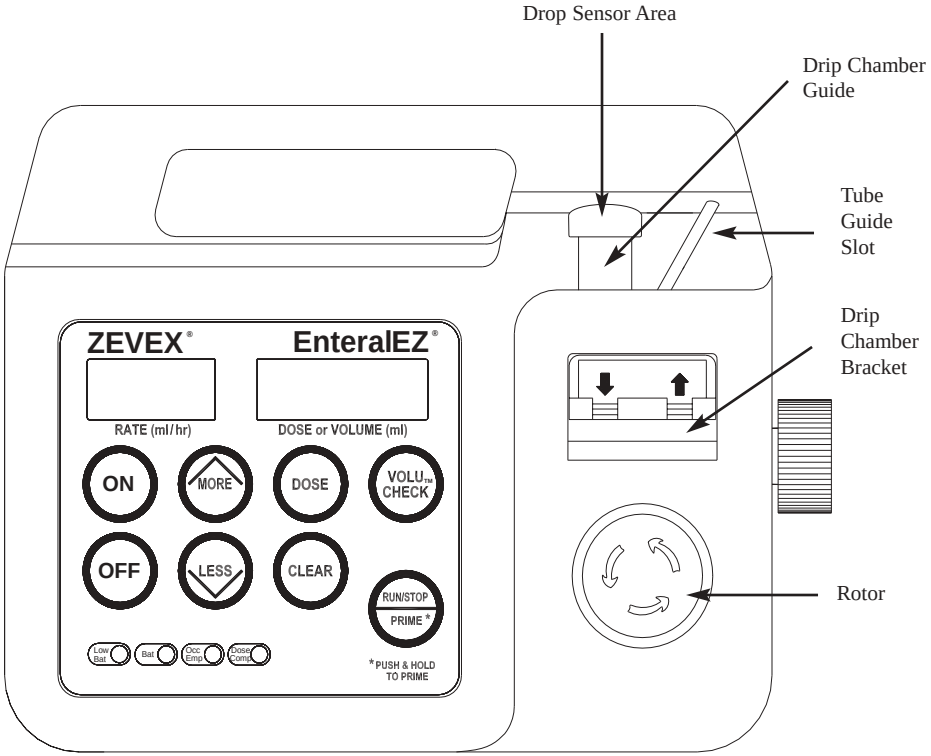


Figure 1

REAR HOUSING PARTS LOCATION

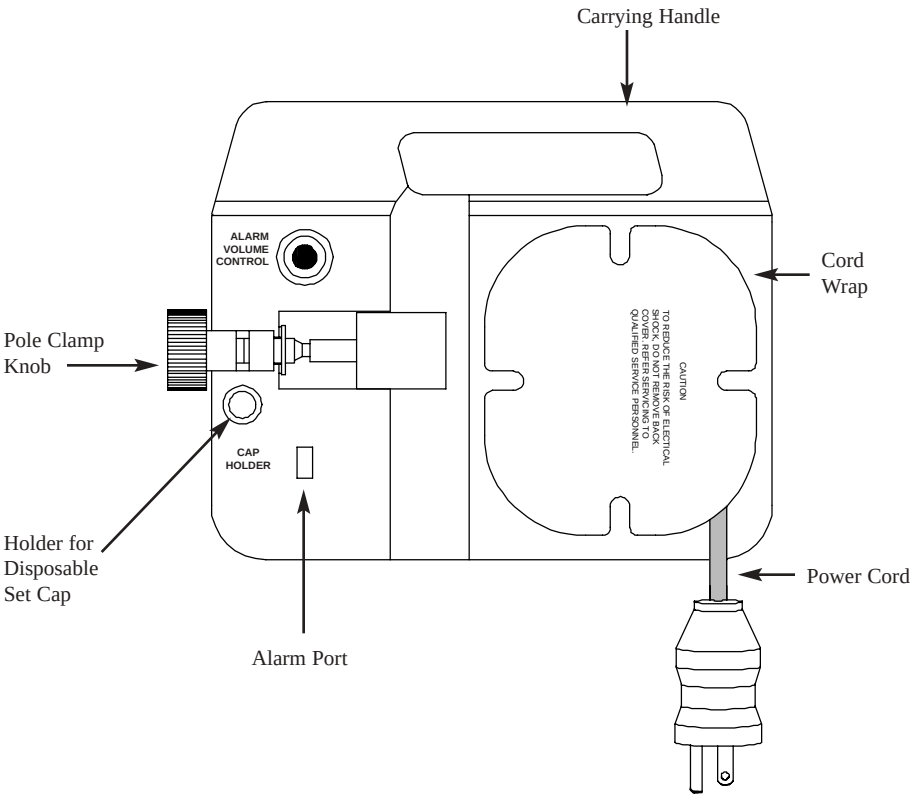

Carrying Handle
ALARM VOLUME CONTROL
Cord Wrap
Pole Clamp Knob
CAUTION
TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE BACK COVER. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
CAP HOLDER
Holder for Disposable Set Cap
Power Cord
Alarm Port

Figure 2

II. CONTROL PANEL

DISPLAYS

- **RATE**: Indicates rate of delivery (in ml/hr).
- **DOSE**: Indicates dose limit setting (in ml).
- **VOLUME**: Indicates formula volume delivered since this display's memory was last cleared (in ml).

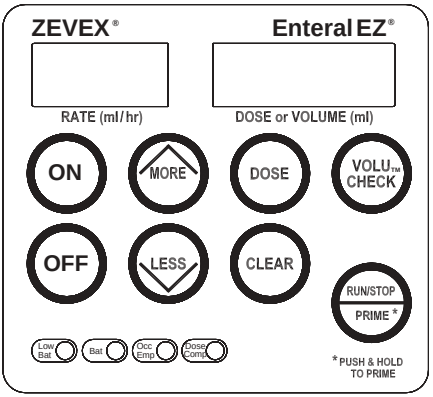


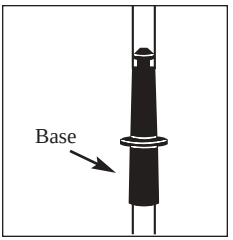
Figure 3

BUTTONS

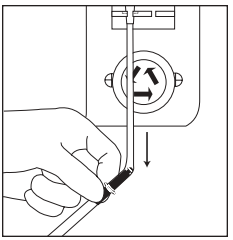
- **ON**: Turns pump on.
- **OFF**: Turns pump off; power to battery charger remains ON if power cord is plugged in.
- **MORE**: Increases delivery rate or dose limit.
- **LESS**: Decreases delivery rate or dose limit.
- **DOSE**: Displays dose limit. Sets dose limit when used with **MORE** or **LESS**.
- **VOLUCHECK™**: Displays the accumulated delivered volume (Acc) since memory was last cleared.
- **RUN/STOP PRIME***: Puts pump in run or hold mode, or if held for three seconds, pump flashes PRInnE in display and primes until button is released.
- **CLEAR**: Clears VOLUME, DOSE, RATE or total accumulated volume when pressed in sequences described in Section III (OPERATING INSTRUCTIONS).

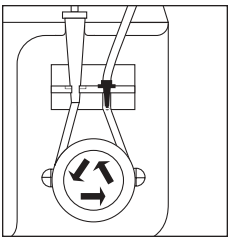
III. OPERATING INSTRUCTIONS

1. Plug power cord into a 120 VAC, 60 Hz three-wire grounded outlet.
2. Press ON. Alarm sounds briefly. VOLUME display flashes.
3. Press MORE or LESS until desired infusion rate is displayed.
4. Press DOSE then MORE or LESS while dOS is displayed until desired dose is displayed. If dose limit is not set, pump will run until container is empty or pump is stopped.
5. Close Roller Clamp on tubing, if so equipped.
6. Fill feeding bag to desired level and close cap.
7. Hang bag on IV pole approximately 26" - 30" above pump using the bag hanger.
8. Place base of Drip Chamber inside Drip Chamber Bracket.
9. Bring tube counter-clockwise around Rotor. Seat in-line occluder or retainer into the Bracket. Press tubing into Tube Guide Slot.
10. Open Roller Clamp, if so equipped, and remove Disposable Set Cap. Cap can be placed in Cap Holder on back of pump. Expel air from disposable set by allowing liquid to flow through tube. Tubing can be conveniently primed by pressing RUN/STOP PRIME* key for three seconds and holding until tubing is primed. Tubing may also be manually primed before loading into pump by opening roller clamp, if so equipped, or grasp the in-line occluder by the base and tilt approximately 45 degrees to the left or right while gently pulling down. Hold this position until air is expelled from the tube. If needed, gently squeeze bag at the same time to start fluid flow. Close Roller Clamp once tubing is primed, if so equipped, and replace set.
11. Firmly insert red Stepped Enteral Adapter of disposable set into feeding tube.
12. Open Roller Clamp, if so equipped.



In-line occluder





1. Press tubing into tubing guide slot.

2. Insert and fully seat in-line occluder flange into pump bracket

OPERATING INSTRUCTIONS (Continued)

13. Press RUN/STOP PRIME* to begin feeding.
14. To change infusion rate, press RUN/STOP PRIME* to stop pump. Press MORE or LESS to make necessary adjustment. Delivery rate is retained in memory. If MORE or LESS is pressed without stopping pump, alarm will sound and pump will continue operating. To view dose while pump is operating, press DOSE; Rotor will momentarily pause while programmed dose is displayed.
15. To change dose, press RUN/STOP PRIME* to stop pump. Press DOSE then MORE or LESS to make necessary adjustment. Dose is retained in memory. If MORE or LESS is pressed without stopping pump, alarm will sound and pump will continue running.
16. To clear rate, dose or accumulated volume, press RUN/STOP PRIME* to stop pump. CLEAR will only function when pump has been stopped. Pump will beep twice, pause, and beep twice again as display clears. If CLEAR is pressed while pump is operating, alarm will sound and pump will continue to run.
    - To reset VOLUME to 0ml/hr, press and hold CLEAR for two beeps.
    - To reset DOSE to 0ml, press DOSE, then within three seconds press and hold CLEAR for two beeps.
    - To reset total accumulated volume delivered to 0ml, press VOLUCHECK™, then within three seconds press and hold CLEAR for two beeps.
    - To clear all memories except VOLUCHECK™, and reset infusion rate to 1ml/hr, press and hold clear for four beeps. ALL will show in left (RATE) window.
17. To view total accumulated volume delivered, press RUN/STOP PRIME* to stop pump, then press VOLUCHECK™. Press RUN/STOP PRIME* again to restart the pump.
18. To turn pump off at any time press OFF.

WARNING:
Close Roller Clamp, if so equipped, before tubing is removed from pump to prevent formula free-flow.

LOADING DISPOSABLE SET

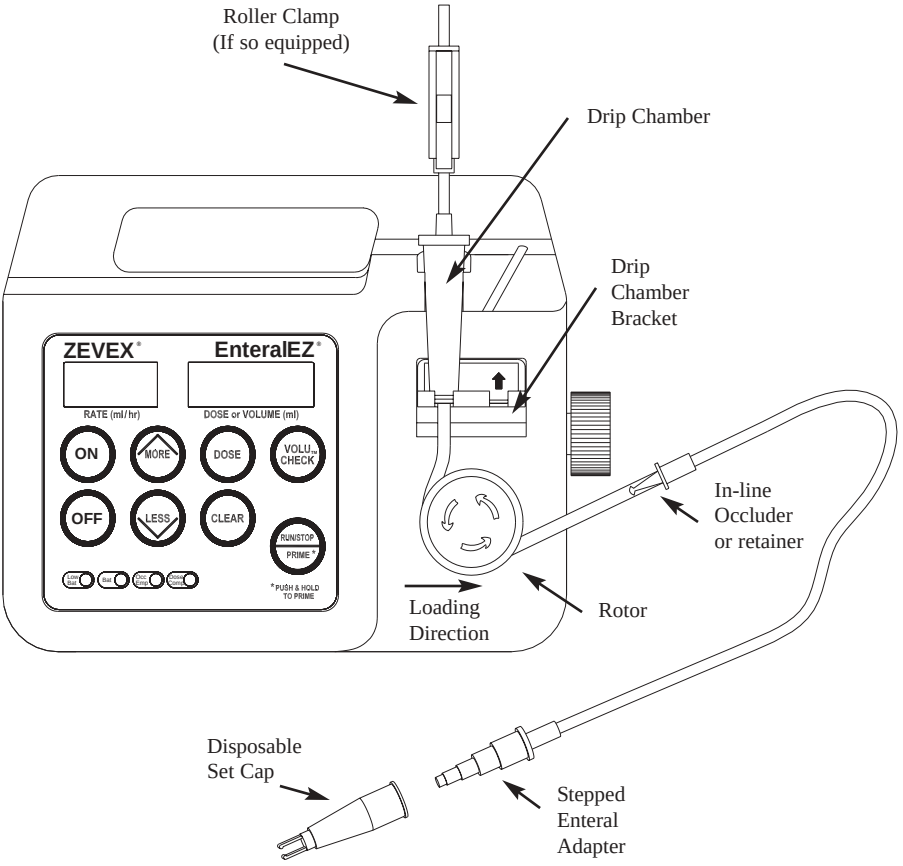


Figure 4

IV. INDICATORS AND ALARMS

LOW BAT: When operating on battery, light begins flashing and pump audibly alarms approximately 15 minutes before battery runs down and pump stops. After 15 minutes, light will flash, alarm will sound, and pump will stop. When LOW BAT light comes on, plug pump into an AC outlet to continue normal feeding while recharging battery. It is advisable to not run battery down completely.

NOTE: Pump will not begin operating if Low Bat indicator is flashing.

BAT: When operating on battery, light is on. Pump should be plugged into an AC outlet whenever possible.

OCC/EMP: When pump is running, light turns on if:

- Feeding container is empty.
- Occlusion has stopped delivery.
- Pump is left on STOP for more than 2-½ minutes.
- Drip Chamber is improperly loaded.

DOSE COMP: Pump stops delivering, light flashes and audible alarm sounds four times when amount of formula delivered reaches selected dose. Alarm is repeated every five minutes until action is taken.

FrE FLO: Whenever power is on, dual-tone alarm sounds if drop sensor detects uncontrolled flow, or if drop sensor is blocked for more than six seconds. Possible causes include Drip Chamber is over-filled, Drip Chamber walls are coated with formula and/or Drop Sensor Area needs to be cleaned. Alarm sounds at maximum, regardless of volume setting, and display flashes FrE FLO.

V. MAINTENANCE

CLEANING AND DISINFECTING PUMP

- **Always disconnect pump from the AC outlet before cleaning to avoid electrical shock.**
- **Do not autoclave.**
- **Do not immerse pump in cleaning solutions or water.**
- **Do not use disinfectants containing phenol.**
- **Prolonged exposure to alcohol, household detergents, or strong cleaners may damage pump housing.**

Using a cloth or sponge, clean pump housing and Rotor with warm soapy water. Clean Drop Sensor Area with soft cotton swabs dipped in isopropyl alcohol.

When a pump has come in contact with infectious disease, clean as above using isopropyl alcohol or a disinfectant safe for plastics, instead of soapy water.

SELF TEST

To test major functions:

- Press ON.
- Press and hold MORE and LESS buttons simultaneously for 3 seconds.
- RATE and VOLUME displays should show a row of eight's, and Rotor should turn.
- Press MORE, LESS, DOSE, CLEAR, VOLUCHECK™ and RUN/STOP PRIME* buttons to test each key. All alarm indicators should light, alarm should sound, and Rotor should stop momentarily.
- Pump will display software version.
- Place a pencil or your finger in Drip Chamber Guide, Rotor should stop, alarm should activate and alarm indicators should light when obstruction is removed.
- Turn pump off to cancel test.

If pump fails to respond as described, pump requires service (see Section VIII. SERVICE for instructions).

VI. TROUBLESHOOTING GUIDE

The EnteralEZ® Enteral Feeding Pump is a reliable electromechanical device. As with any electromechanical device, problems may occur. The following tips may help you to correct minor problems.

SITUATION	POSSIBLE CAUSES	SOLUTIONS
4 LOW BAT alarms. After approximately 15 minutes, pump stops, displays flash & alarm beeps.	4 Battery charge is below performance level.	4 Plug cord into AC outlet.
4 OCC/EMP alarms. Pump stops, alarm beeps, displays flash.	4 Roller Clamp is closed. 4 Container is empty. 4 Occlusion is restricting flow.	4 Open Roller Clamp. 4 Replace or refill. 4 Correct occlusion: kinked tubing in disposable set; clogged feeding tube; or blocked container.
	4 Drip Chamber not properly placed in pump; drops not being sensed.	4 Reposition properly.
	4 Pump is on STOP more than 2-1/2 minutes.	4 Press RUN/STOP PRIME* to resume feeding, or turn pump off.
4 DOSE COMP alarms. Displays flash.	4 Pump has delivered selected dose.	4 Change dose limit, if desired. Press RUN/STOP PRIME*. Pump will run until new dose is completed again. **- or -** 4 Press OFF. Feeding completed.

TROUBLESHOOTING GUIDE (Continued)

SITUATION	POSSIBLE CAUSES	SOLUTIONS
4 FrE FLO alarm beeps. Displays flash.	4 Pump set is dislodged. Tubing off Rotor.	4 Close Roller Clamp. Check set placement on Rotor. Open Roller Clamp and restart pump.
	4 Drop sensor blocked due to formula on Drip Chamber walls.	4 Replace disposable set.
	4 Drop sensor blocked due to overfilled Drip Chamber.	4 Close Roller Clamp. Disconnect disposable set from patient's feeding tube. Remove disposable set from pump, open Roller Clamp and invert Drip Chamber to purge formula from Drip Chamber. Close Roller Clamp. Reload disposable set and open Roller Clamp.
	4 Drop sensors need cleaning.	4 Clean Drop Sensor Area with cotton swab dipped in isopropyl alcohol.
4 Rate change alarm beeps. Pump does not stop.	4 MORE, LESS, CLEAR or VOLUCHECK will only work when pump has stopped.	4 Press RUN/STOP PRIME* once. Check accumulated volume or change rate, as desired. Press RUN/STOP PRIME* again to restart.

VII. SPECIFICATIONS

TYPE OF DEVICE:	Volumetric enteral feeding pump
PUMP MECHANISM:	Rotary peristaltic
OPERATING RATE RANGE:	1-295 ml/hour in 1ml/hour increments
DOSE LIMIT:	1-2000 ml in 1 ml increments, 2000-9999 ml in 5 ml increments
DOSE ACCURACY:	+/- 10% of selected flow rate
OCCLUSION PRESSURE:	Does not exceed 15 psi
BATTERY:	4 Sealed lead acid like car battery 4 Rechargeable 4 Automatically recharges when connected to an AC outlet 4 Recharge time is 12 hours from complete discharge to full recharge 4 Operating time is approximately six hours at 125 ml/hr with a full charge
DIMENSIONS:	7.4"H x 9.0"W x 5.1"D (19cm x 23cm x 13cm)
WEIGHT:	5.6 pounds (2.54 kilograms)
CASE MATERIAL:	Flame retardant plastic
POWER REQUIREMENT:	120 VAC, .25A, 60 Hz
OPERATING TEMPERATURE:	50° F to 104° F (10° C to 40° C)
OPERATING HUMIDITY:	30 to 75% non-condensing
STORAGE TEMPERATURE:	-40° F to 158° F (-40° C to 70° C)
STORAGE HUMIDITY:	10 to 95% non-condensing

VIII. SERVICE

For service, contact enteral products customer service at:

ZEVEX Incorporated
4314 ZEVEX Park Lane
Salt Lake City, Utah 84123
www.zevex.com
Tel: (801) 264-1001
Fax: (801) 264-1051
Toll-Free in USA: (800) 970-2337

IX. ACCESSORIES

ZEVEX offers several disposable sets which are compatible with the EnteralEZ®:

Order No.	Description	Units/Case
LG010	LifeGuard® Non-vented spike with attached pump set	30
LG500	LifeGuard® 500ml Bag with attached pump set	30
LG200	LifeGuard® 1200ml Bag with attached pump set	30

ZEVEX also offers a complete line of enteral nutrition delivery products including the EnteraLite® Ambulatory Enteral Feeding Pump and related accessories.

X. WARRANTY

Solely for the benefit of the original buyer, ZEVEX Incorporated ("ZEVEX") warrants all new EnteralEZ® products of its manufacture to be free from defects in material and workmanship, and will replace or repair, F.O.B. at its factory in Salt Lake City, Utah or other location designated by ZEVEX, any EnteralEZ® products to be returned to it within twenty-four (24) months of original purchase by the buyer. Such repair or replacement shall be free of charge.

ZEVEX warrants to the original buyer, all repaired or replaced products to be free from defects in material and workmanship and will replace or repair such products F.O.B., at is factory in Salt Lake City, Utah, or other location designated by ZEVEX. Such repair or replacement shall carry a warranty of ninety (90) days from the date of repair or replacement or the balance of the new product warranty as described above, whichever is greater.

This Warranty applies to all EnteralEZ® products manufactured by ZEVEX and is the ONLY WARRANTY GIVEN FOR THE SALE OF PRODUCTS OR SERVICES. NO WARRANTIES IMPLIED IN LAW, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE SHALL APPLY. ZEVEX WILL BE LIABLE, IN ANY EVENT, ONLY FOR THE PURCHASE PRICE OF THE DEFECTIVE PRODUCT, BUT NOT FOR ANY CONSEQUENTIAL DAMAGES.

This Warranty may not be modified, amended or otherwise changed, except by a written document properly executed by a corporate officer of ZEVEX.

EnteralEZ®
Enteral Feeding Pump

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ZEVEX®
THERAPEUTICS

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